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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,115	12/01/2003	Chong Mann Lim	SI-0045	9929

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EXAMINER	
ADDY, ANTHONY S	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,115	LIM, CHONG MANN	
	Examiner	Art Unit	
	Anthony S. Addy	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

2. This action is in response to applicant's amendment filed on May 18, 2006. **Claim 3** has been cancelled. **Claims 1, 2** and **4-30** are now pending in the present application.

Response to Arguments

3. Applicant's arguments with respect to **claims 1, 2** and **4-30** have been considered but are moot in view of the new ground(s) of rejection. Arguments are directed to newly added limitations and the new ground(s) of rejection based on the newly added limitations follow below.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-2 and 4-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ji et al., U.S. Patent Number 6,954,444 (hereinafter Ji)** and further in view of **Hunzinger, U.S. Patent Number 6,845,245 (hereinafter Hunzinger).**

Regarding claim 1, Ji teaches a method for resource management of a call control processor (see abstract and Fig. 3), the method comprising: allocating resources

in response to an origination call or a page response call of a terminal in a mobile communication system (see col. 3, lines 22-40, col. 9, lines 19-42 and Fig. 3; steps 301-303 & 307); and sending a request for allocation of available resources to the resource management processor within a predetermined time period (see col. 7, lines 34-55, col. 9, lines 19-49, col. 10, lines 10-15 and Fig. 3).

Ji fails to explicitly teach repeatedly requesting allocation of available resources by the call control processor until obtained, if the resource management processor fails to allocate resources upon receiving request for resource allocation.

In an analogous field of endeavor, Hunzinger teaches a base station repeatedly requests allocation of resources if the base station's resources (e.g. traffic channels) are all in use when a mobile station is attempting to set up a connection (see col. 7, lines 32 through col. 8, line 21 and Fig. 4).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Ji with the teachings of Hunzinger to include a method of repeatedly requesting allocation of available resources by the call control processor until obtained, if the resource management processor fails to allocate resources upon receiving request for resource allocation, in order to allow a resource allocation infrastructure at a base station to provide better resource management for both traffic channel assignments and access channel usage as taught by Hunzinger (see abstract and col. 2, lines 56-62).

Regarding claims 2 and 4, Ji in view of Hunzinger teaches all the limitations of claim 1. In addition, Ji teaches a method, further comprising: (a) sending a request for

resource allocation at the call control processor to a resource management processor (see col. 9, lines 19-23 and Fig. 3; step 301); (b) if resource allocation is denied, transmitting a resource allocation failure message at the resource management processor to the call control processor (see col. 9, lines 19-25); (c) if the call control processor receives the resource allocation failure message, checking at the call control processor whether any other call has been released or whether any other processor has returned to a normal state from an abnormal state within the predetermined time (see col. 7, lines 34-55, col. 9, line 50 through col. 10, line 15 and Fig. 3; steps 304-306); and (d) if it is determined from (c) that any call has been released or that said any other processor has returned to the normal state from the abnormal state within the predetermined time, sending a request for re-allocation of available resources at the call control processor to the resource management processor (see col. 9, line 50 through col. 10, line 15 and Fig. 3; steps 304-307).

Ji fails to explicitly teach wherein, if the allocation of resources in response to the available resource re-allocation request made by the call control processor in (d) is denied, said (b) through (d) are conducted repeatedly.

In an analogous field of endeavor, Hunzinger teaches a base station repeatedly requests allocation of resources if the base station's resources (e.g. traffic channels) are all in use when a mobile station is attempting to set up a connection (see col. 7, lines 32 through col. 8, line 21 and Fig. 4).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Ji with the teachings of Hunzinger to include a method,

wherein, if the allocation of resources in response to the available resource re-allocation request made by the call control processor in (d) is denied, said (b) through (d) are conducted repeatedly, in order to allow a resource allocation infrastructure at a base station to provide better resource management for both traffic channel assignments and access channel usage as taught by Hunzinger (see abstract and col. 2, lines 56-62).

Regarding claim 5, Ji in view of Hunzinger teaches all the limitations of claim 1. In addition, Ji teaches a method, wherein said pre-determined time period is the time allocated for waiting from the terminal's receipt of a base station's response message regarding the call connection request made by the terminal until the requested call is connected (see col. 7, lines 40-55 and col. 9, lines 19-43).

Regarding claim 6, Ji in view of Hunzinger teaches all the limitations of claim 1. In addition, Ji teaches a method, wherein the resource management processor is at least one of a service data unit (SDU) management processor managing service data units (SDUs), a network control processor managing network resources, and a base station processor managing channels (see col.7, lines 63-67 and Fig. 2; shows a BTS controller 225 including a channel resource allocator 230 [i.e. reads on a resource management processor]).

Regarding claim 7, Ji in view of Hunzinger teaches all the limitations of claim 2. In addition, Ji teaches a method, wherein said other processor of said (c) or (d) comprises a processor state block indicating a state of the relevant processor (see col. 9, lines 7-65 and col. 10, lines 10-47).

Regarding claim 8, Ji in view of Hunzinger teaches all the limitations of claim 7. In addition, Ji teaches a method, wherein said other processor is at least one of a service data unit (SDU) management processor managing service data units (SDUs), a network control processor managing network resources, and a base station processor managing channels (see col. 9, lines 7-65 and col. 10, lines 10-47 and Fig. 2).

Regarding claim 9, Ji in view of Hunzinger teaches all the limitations of claim 7. In addition, Ji teaches a method, wherein in said (c) the call control processor checks whether any other processor has returned to the normal state from the abnormal state by checking the processor state blocks of the other processors (see col. 9, lines 31-55 [i.e. the limitation "the call control processor checks whether any other processor has returned to the normal state from the abnormal state by checking the processor state blocks of the other processors" is met by the teaching of Ji that, "the BSC controller checks the contents of a channel selection table to determine if any traffic channels are not in use" since it is inherent the processors controlling the traffic channels would be in an abnormal state, i.e. unavailable due to the traffic channels in use and available (i.e. a normal state) when the traffic channels are not in use]).

Regarding claim 10, Ji in view of Hunzinger teaches all the limitations of claim 2. In addition, Ji teaches a method, wherein in said (c) if any other processor returns to the normal state from the abnormal state: said other processor notifies the call control processor of the return to the normal state; and the call control processor checks whether said other processor has returned to the normal state from the abnormal state

through the other processor's notification of the event occurrence (see col. 7, line 56 through col. 8, line 8, col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 11, Ji in view of Hunzinger teaches all the limitations of claim 2. In addition, Ji teaches a method, wherein in said (c) the call control processor checks a base station manager (BSM) that manages the base station controller of the mobile communication system, thereby checking whether any other processor has returned to the normal state from the abnormal state (see col. 7, line 56 through col. 8, line 8, col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 12, Ji in view of Hunzinger teaches all the limitations of claim 2. In addition, Ji teaches a method, wherein in said (c) if any other processor returns to the normal state from the abnormal state: notifying, the call control processor of the occurrence of the return to the normal state, by the base station manager; and checking whether said other processor has returned to the normal state from the abnormal state through the base station manager's notification of the event occurrence (see col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 13, Ji in view of Hunzinger teaches all the limitations of claim 1. In addition, Ji teaches a method, wherein the terminal is a mobile hand station (see col. 6, lines 6-10).

Regarding claim 14, Ji teaches a mobile communication system (see Fig. 1) comprising: a call control processor configured to send a request for resource allocation to a resource management processor (see col. 7, lines 56-63, col. 6, lines 18-25, col. 9, lines 19-23 and Fig. 2; shows a BSC 210 [i.e. It is inherent the BSC 210 includes a call

control processor (CCP), since the BSC is very well known in the art to include a call control processor (CCP) for controlling a call and for managing wireless radio communication resources]), wherein the call control processor is configured to check whether any other call has been released or whether any other processor has returned to the normal state from the abnormal state within a predetermined time period, if the call control processor receives a resource allocation failure message from the resource management processor (see col. 7, lines 34-55, col. 9, line 50 through col. 10, line 15 [i.e. the limitation "the call control processor is configured to check whether any other call has been released, if the call control processor receives a resource allocation failure message from the resource management processor" is met by the teaching of Ji that, "if no traffic channel is available, channel resource allocator 230 [i.e. reads on a resource management processor] retrieves from the BSC traffic channels that have already established two or more soft handoff legs and if so drops one of the soft handoff legs to reallocate the channel element that handled the dropped handoff leg to now handle the new mobile station call origination]), and wherein the call control processor is configured to send a request for re-allocation of available resources to the resource management processor, if it is determined that any other call has been released or that any other processor has returned to the normal state from the abnormal state (see col. 9, line 50 through col. 10, line 15).

Ji fails to explicitly teach repeatedly request resource allocation by the call control processor until obtained, if the resource management processor fails to allocate resources upon receiving request for resource allocation.

In an analogous field of endeavor, Hunzinger teaches a base station repeatedly requests allocation of resources if the base station's resources (e.g. traffic channels) are all in use when a mobile station is attempting to set up a connection (see col. 7, lines 32 through col. 8, line 21 and Fig. 4).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Ji with the teachings of Hunzinger to repeatedly request resource allocation by the call control processor until obtained, if the resource management processor fails to allocate resources upon receiving request for resource allocation, in order to allow a resource allocation infrastructure at a base station to provide better resource management for both traffic channel assignments and access channel usage as taught by Hunzinger (see abstract and col. 2, lines 56-62).

Regarding claim 15, Ji in view of Hunzinger teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein the call control processor is in a base station controller (see col. 6, lines 18-25 and Fig. 2; shows a base station 101 including BSC 210 [i.e. It is inherent the BSC 210 includes a call control processor (CCP), since the BSC is very well known in the art to include a call control processor (CCP) for controlling a call and for managing wireless radio communication resources]).

Regarding claim 16, Ji in view of Hunzinger teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein the resource management processor is at least one of a service data unit (SDU) management processor managing service data units (SDUs), a network control processor managing

network resources, and a base station processor managing channels (see col.7, lines 63-67 and Fig. 2; shows a BTS controller 225 including a channel resource allocator 230 [i.e. reads on a resource management processor]).

Regarding claim 17, Ji in view of Hunzinger teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein said other processor comprises a processor state block indicating the state of the relevant processor (see col. 9, lines 7-65 and col. 10, lines 10-47).

Regarding claim 18, Ji in view of Hunzinger teaches all the limitations of claim 17. In addition, Ji teaches a mobile communication system, wherein said other processor is at least one of a service data unit (SDU) management processor managing service data units (SDU), a network control processor managing network resources, and a base station processor managing channels (see col. 9, lines 7-65 and col. 10, lines 10-47 and Fig. 2).

Regarding claim 19, Ji in view of Hunzinger teaches all the limitations of claim 17. In addition, Ji teaches a mobile communication system, wherein the call control processor is configured to check whether any other processor has returned to the normal state from the abnormal state by checking the processor state blocks of the other processors (see col. 9, lines 31-55 [i.e. the limitation "the call control processor is configured to check whether any other processor has returned to the normal state from the abnormal state by checking the processor state blocks of the other processors" is met by the teaching of Ji that, "the BSC controller checks the contents of a channel selection table to determine if any traffic channels are not in use" since it is inherent the

processors controlling the traffic channels would be in an abnormal state, i.e. unavailable due to the traffic channels in use and available (i.e. a normal state) when the traffic channels are not in use]).

Regarding claim 20, Ji in view of Hunzinger teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein if any other processor returns to the normal state from the abnormal state: said other processor is configured to notify the call control processor of occurrence of the return to normal state; and the call control processor is configured to check whether said other processor has returned to the normal state from the abnormal state through the other processor's notification of the return to normal state (see col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 21, Ji in view of Hunzinger teaches all the limitations of claim 15. In addition, Ji teaches a mobile communication system, wherein: the mobile communication system further comprises a base station manager configured to manage the base station controller, and the call control processor is configured to check whether said other processor has returned to the normal state from the abnormal state by checking the base station manager (see col. 7, line 56 through col. 8, line 8, col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 22, Ji in view of Hunzinger teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein if any other processor returns to the normal state from the abnormal state: the base station manager is configured to notify the call control processor of the occurrence of the return to normal state; and the call control processor is configured to check whether said other

processor has returned to the normal state from the abnormal state through the base station manager's notification of the return to the normal state (see col. 7, line 56 through col. 8, line 8, col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 23, Ji in view of Hunzinger teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein the mobile communication system comprises: at least one mobile hand station; at least one base station; at least one base station controller; and at least one mobile switching center (MSC) (see col. 6, lines 1-50 and Fig. 1).

Regarding claim 24, Ji teaches a method for resource management (see Fig. 3) comprising: receiving a request for resource allocation from a terminal (see col. 9, lines 19-23 and Fig. 3; step 301); requesting resource allocation (see col. 9, lines 25-36); monitoring resource availability during a predetermined connection time; and notifying the terminal of resource allocation failure after the predetermined connection time, if a resource is unavailable within the predetermined connection time (see col. 7, lines 24-55, col. 9, lines 19-49 and col. 10, lines 10-34).

Ji fails to explicitly teach repeatedly requesting allocation of available resources by a call control processor until obtained, if failure to allocate resources upon receiving request for resource allocation occurs.

In an analogous field of endeavor, Hunzinger teaches a base station repeatedly requests allocation of resources if the base station's resources (e.g. traffic channels) are all in use when a mobile station is attempting to set up a connection (see col. 7, lines 32 through col. 8, line 21 and Fig. 4).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Ji with the teachings of Hunzinger to include a method of repeatedly requesting allocation of available resources by a call control processor until obtained, if failure to allocate resources upon receiving request for resource allocation occurs, in order to allow a resource allocation infrastructure at a base station to provide better resource management for both traffic channel assignments and access channel usage as taught by Hunzinger (see abstract and col. 2, lines 56-62).

Regarding claim 25, Ji in view of Hunzinger teaches all the limitations of claim 24. In addition, Ji teaches a method, wherein monitoring resource availability comprises: transmitting a resource allocation failure message to the call control processor, if resource allocation fails (see col. 9, lines 19-25 and col. 10, lines 23-33); and determining whether at least one resource becomes available during the predetermined connection time (see col. 9, lines 25-49 and col. 10, lines 34-47).

Regarding claim 26, Ji in view of Hunzinger teaches all the limitations of claim 25. In addition, Ji teaches a method, wherein monitoring resource availability further comprises notifying the call control processor of resource availability, if the requested resource becomes available within the predetermined connection time (see col. 7, lines 25-55 and col. 9, lines 19-49); repeating the request for resource allocation by the call control processor; and allocating the requested resource and connecting to the terminal (see col. 7, lines 25-55 and col. 9, line 23 through col. 10, line 15).

Regarding claim 27, Ji in view of Hunzinger teaches all the limitations of claim 24. In addition, Ji teaches a method, wherein the resource allocation is provided by at

least one of a service data unit (SDU) management processor managing service data units (SDUs), a network control processor managing network resources, and a base station processor managing channels (see col. 9, lines 7-65 and col. 10, lines 10-47 and Fig. 2).

Regarding claim 28, Ji in view of Hunzinger teaches all the limitations of claim 24. In addition, Ji teaches a method, further comprising: allocating the requested resource, if the requested resource becomes available within the predetermined connection time; and connecting the terminal, without sending a resource allocation failure message to the terminal even if an initial resource request resulted in a failure (see col. 9, lines 19-49 and col. 7, lines 24-55).

Regarding claim 29, Ji in view of Hunzinger teaches all the limitations of claim 24. In addition, Ji teaches a method, wherein the terminal is at least one of a mobile terminal, PDA, and mobile hand station (see col. 6, lines 6-10).

Regarding claim 30, Ji in view of Hunzinger teaches all the limitations of claim 25. In addition, Ji teaches a method, wherein the call control processor is integrated into a base station (see col. 6, lines 18-25 and Fig. 2; shows a base station 101 including BSC 210 [i.e. It is inherent the BSC 210 includes a call control processor (CCP), since the BSC is very well known in the art to include a call control processor (CCP) for controlling a call and for managing wireless radio communication resources]).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony S. Addy whose telephone number is 571-272-7795. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony S. Addy
August 7, 2006

ELISEO RAMOS-FELICIANO
PRIMARY EXAMINER